Black Oak
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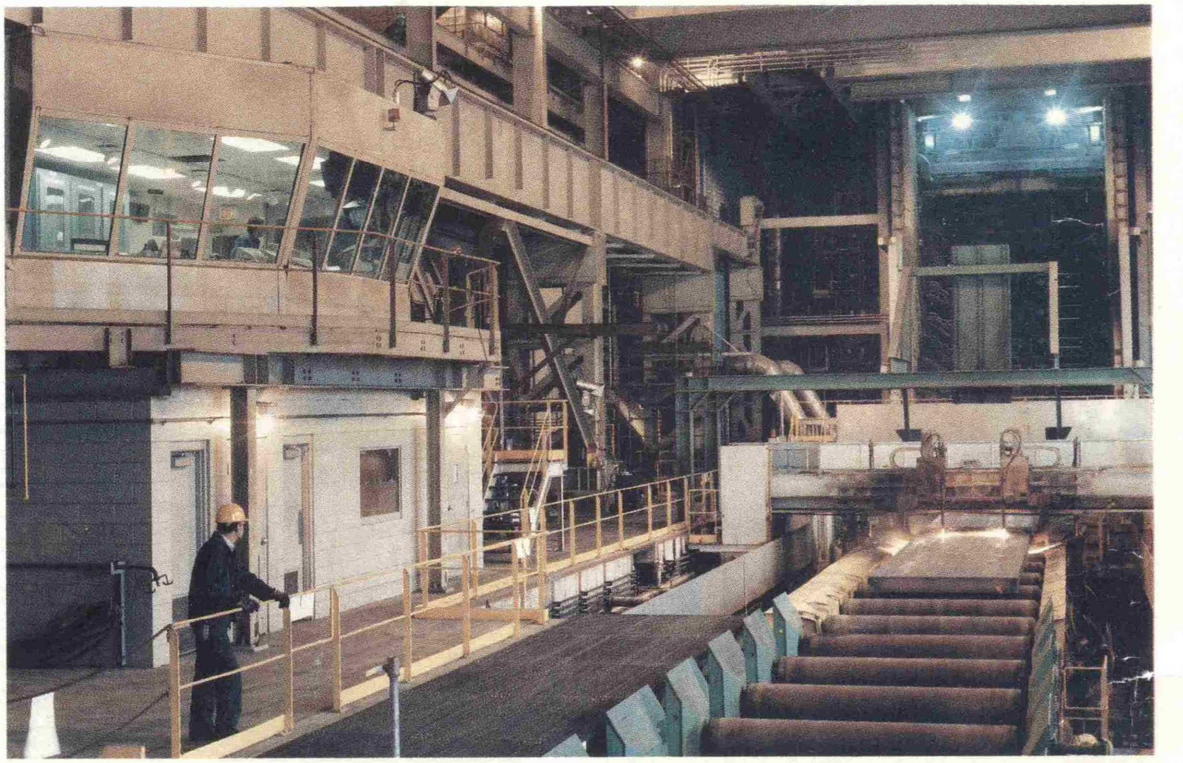
Steel

Gary Works Dedicates New Caster/Plate Mill



U.S. Steel • Gary Works • 'C' Line Caster / LMF

U.S. Steel • Gary Works • 160" Plate Mill

A message from V. John Goodwin
General Manager
U. S. Steel Gary Works

People make the difference. At Gary Works, it takes 7,800 people to make approximately 7 million tons of steel a year. It starts with the receipt of raw materials from iron ore pellets to our docks and ends long after the product is shipped to our customers plants where Gary employees make continuing visits to assure quality constantly arrives with the delivered product.

It takes a lot of expensive and large machinery to make quality steels and the completion of the caster "C" line and plate mill modernization are two of the most recent components in our continuing effort to provide the best equipment to make our products.

We could not arrive at our goal of providing our customers with continually improved products with capital investment alone — because none of that works without the commitment of our people.

When I arrived here four years ago, customer esteem for Gary Works left a lot to be desired. Our employees gathered to hear first hand where we stood in the marketplace — and it wasn't a pretty picture. The challenge of quality that lay ahead required each and every employee to "buy in" to a commitment that would tell our customers we wanted to be their supplier of choice.

Gary Works employees understood that challenge and rose to the occasion. From the coke plant to the shipping bays, from the blast furnaces to the hot strip mill, from the casters to the finishing mills, all throughout Gary Works — each and every unit in its own way — has taken the quality commitment seriously. And it's paid off.

The total quality program called APEX has blossomed at Gary Works and it is now a U. S. Steel corporate-wide Quality System.

Customers are recognizing Gary's quality production with awards that are living proof of the employee commitment. The awards demonstrate customer satisfaction and are awarded on actual performance.

Flags proclaiming our quality achievement fly from the Gary Works flag pole and plaques awarded by these satisfied customers are hanging on our walls.

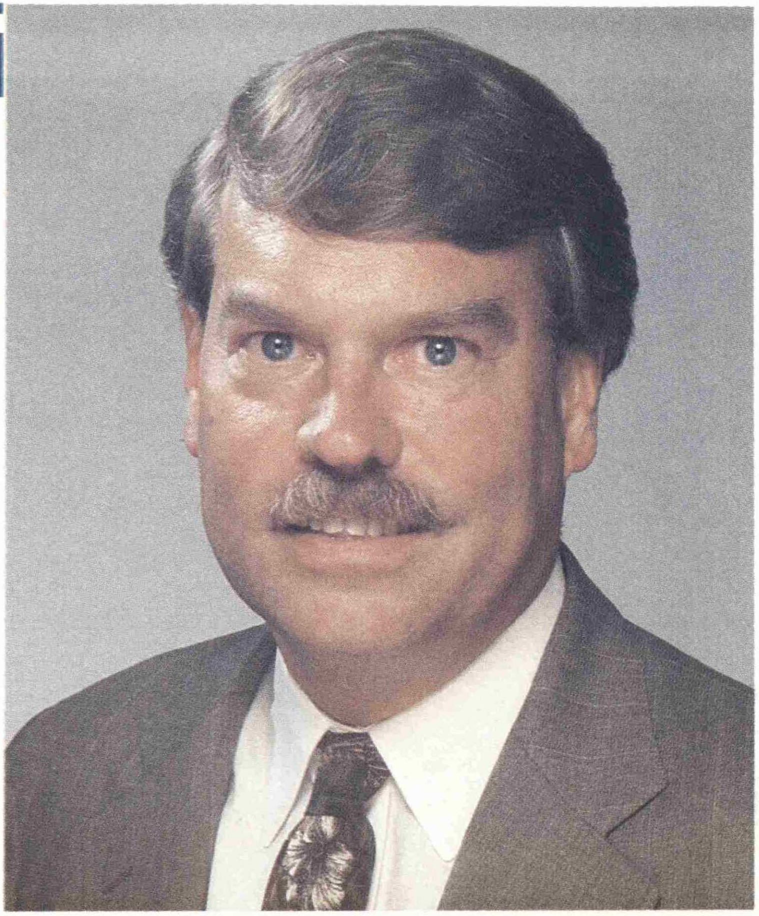
More importantly, these accolades demonstrate customer satisfaction and customer satisfaction means returning customers.

We appreciate these awards, but even better we appreciate the efforts of our employees who have take on the continuing quality commitment.

Gary Works has a Mission Statement.

"The Gary Works mission is to make quality steels at the lowest possible cost for our customers, continually improving these products through the commitment and involvement of our people, and delivering the products as requested to the satisfaction of those customers."

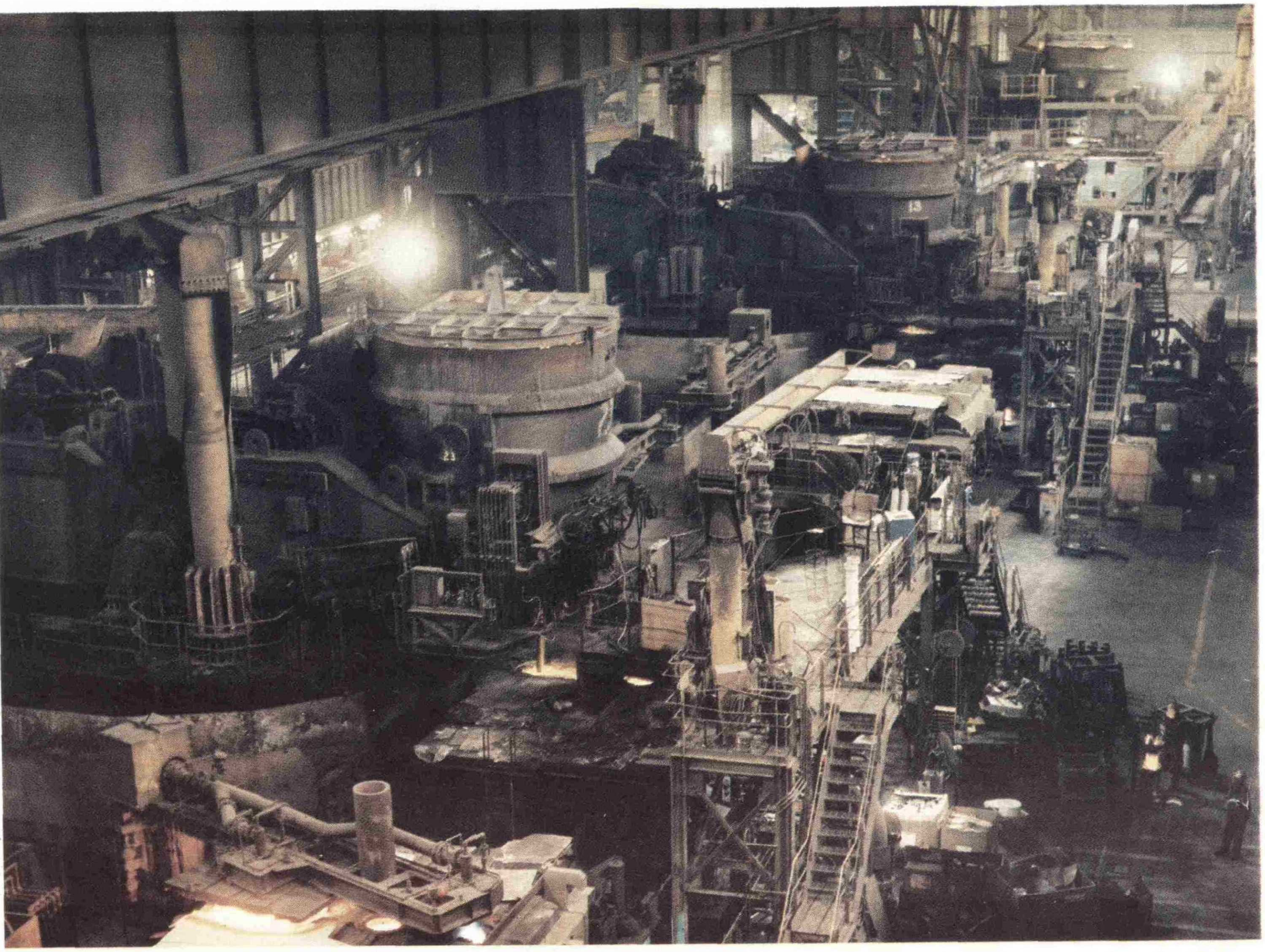
"We are customer driven."



APEX stands for All People EXcellence, All Product EXcellence, and Automotive Product Excellence.

The APEX Quality System emphasizes total employee commitment to process optimization and problem resolution, with continuous quality improvement and customer satisfaction as its goals. APEX focuses on four major components that have a direct impact on quality: Manpower, Materials, Manufacturing and Measurement. Feedback and Action are the fianl ingredients necessary to continously improve our processes and our product quality.

GARY USS WORKS
COMMON CAUSE
APEX
ALL PEOPLE EXCELLENCE



A birds-eye view of U. S. Steel Gary Works' No. 2 caster with three ladles of liquid steel in place on "A" line (foreground) "B" line (center) and the new "C" line (background) which began operations July 29, 1991.

7 Million Tons

Largest Casting Capability North America

When the first steel was poured into the mold of the new $240 million continuous slab caster on July 29, 1991, it marked the beginning of an "all cast" era for U. S. Steel's Gary Works. With this unit on line, the outdated ingot facilities will be phased out by year end.

The start-up of "C" line, the third continuous caster at the Gary No. 2 caster facility, makes the U. S. Steel flagship plant North America's largest steel casting complex. The annual capacity of Gary Works is approximately 7 million cast tons, which includes the No. 1 caster.

"The 'C' line caster is a perfect fit to the companion A and B lines in providing a full complement of steel slab grades and sizes to serve all of Gary's flat rolled customers," said David L. Peterson, plant manager, Gary Works.

About two-thirds of the new caster's production will be converted into plate products at Gary's 160-inch plate mill. The remaining output from the new caster will be processed into hot strip coils at the plant's 84-inch hot strip mill for sheet and tin product processing.

The new single strand caster has a capacity of some 1.6 million tons annually. It is a uniquely configured machine allowing for production of 12-inch thick slabs for processing into plate products, and 9.1-inch thick slabs for sheet, hot roll and tin products.

Other dimensional ranges of the "C" line are: widths from 45 to 100 inches, and lengths of 17 to 40 feet. The addition of the "C" line will improve productivity, quality and yield.

While the new caster incorporates many of the state-of-the-art provisions of its companion lines, it has some features of its own that are improvements over the other units.

Built into the equipment's hardware is a special top- fed "starter bar" that allows for the changing of slab chemistry grades or widths faster than ever. This gives added flexibility in responding to customer order preferences for products sourced through this unit. Another unique feature is soft reduction, which allows for a slight compression of the slab during casting. This feature will enhance quality for plate products.

"The sourcing of steel has become more flexible, allowing us to deliver a ladle of liquid steel from either the No. 1 or No. 2 steelmaking shops," said Timothy L. Nosbisch, division manager-steel producing.

An additional ladle metallurgy (LMF) unit has been added with "C" line. "This unit, along with No. 1 and No. 2 LMF assists in controlling steelmaking chemistry and temperature for producing each grade of steel to the specific requirements of the customer," according to Carol West, LMF APEX coordinator.

Other features of the new "C" line include: 28 drive rolls to move the solidified steel slab through the casting machine; 10 zones of water sprays for precise cooling of the steel; and a computer system with 11 process control functions from material tracking through mold width adjustment controls. A key feature of the computer process modeling is information gathering of 200 critical process variables tracked for every foot of steel produced on the unit that influences product quality. This successful feature of the original computer software for the "A" and "B" lines was made an integral part of the "C" line's computer planning.

In addition, the No. 1 BOP shop had its crane capacity expanded to allow handling of large 230-ton heats of raw steel, an increase from the previous 190-heat size, to match the production utilization of the new casting unit.

Probably the best feature of the machine has been its start-up. A cooperative effort between U. S. Steel and its suppliers resulted in a world-class start-up with the machine producing nearly 70,000 tons in its first full month of operation. "The machine performance, from both a quality and productivity standpoint, has been excellent to date," said Bernie Fedak, general manager-engineering, flat rolled products.

Continous Casting has long history

Casting of liquid steel starting at about 3,000 degrees Fahrenheit to form a solid semi-finished slab, all in one continuous process, is a wonder of modern steel technology.

The continuous casting process, which enables steelmakers to bypass the old method of converting raw steel ingots to semifinished forms on rolling mills, assures greatly improved product yields and improved quality while achieving lower energy costs and utilization rates.

U. S. Steel started on the long road to conversion to all continuous cast steelmaking at Gary Works when it installed its first large scale, high productivity caster in 1967. It was a pioneer facility for the domestic steel industry. In 1982, the No. 1 caster was completely rebuilt and today continues as a key element in the total casting capability at Gary Works with an annual capacity of nearly 2 million tons.

The next step in the plant's conversion to continuous casting started in 1986 when the No. 2 caster began operations. In June of that year, then Vice President George Bush joined officials of U. S. Steel and local dignitaries in dedicating the $300 million complex which added 3.3 million tons casting capacity to the plant.

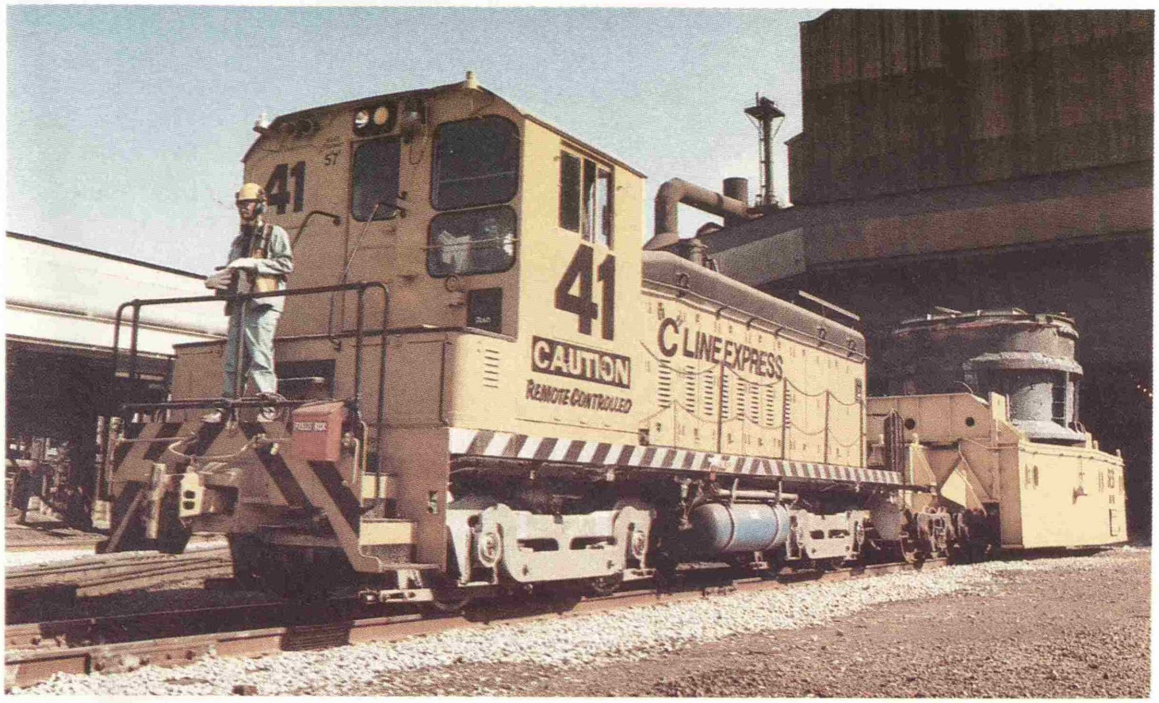
The No. 2 caster included two casting lines — "A" and "B" — with the "A" line capable of casting "twin" slabs or two slabs at a time, side-by-side. The two caster lines were installed to produce slabs for sheet, tin, hot roll and plate products. They produce slabs 9.1 inches thick, from 33 inches to 92 inches wide, and in lengths from 20 to 40 feet. When the "A" line is placed in its "twin" mode, it can process two strands of slabs at once in widths of 33 to 44 inches.

An advanced ladle metallurgy facility was constructed at the same time as the two caster lines for controlling steelmaking chemistry and temperature to pinpoint accuracy.

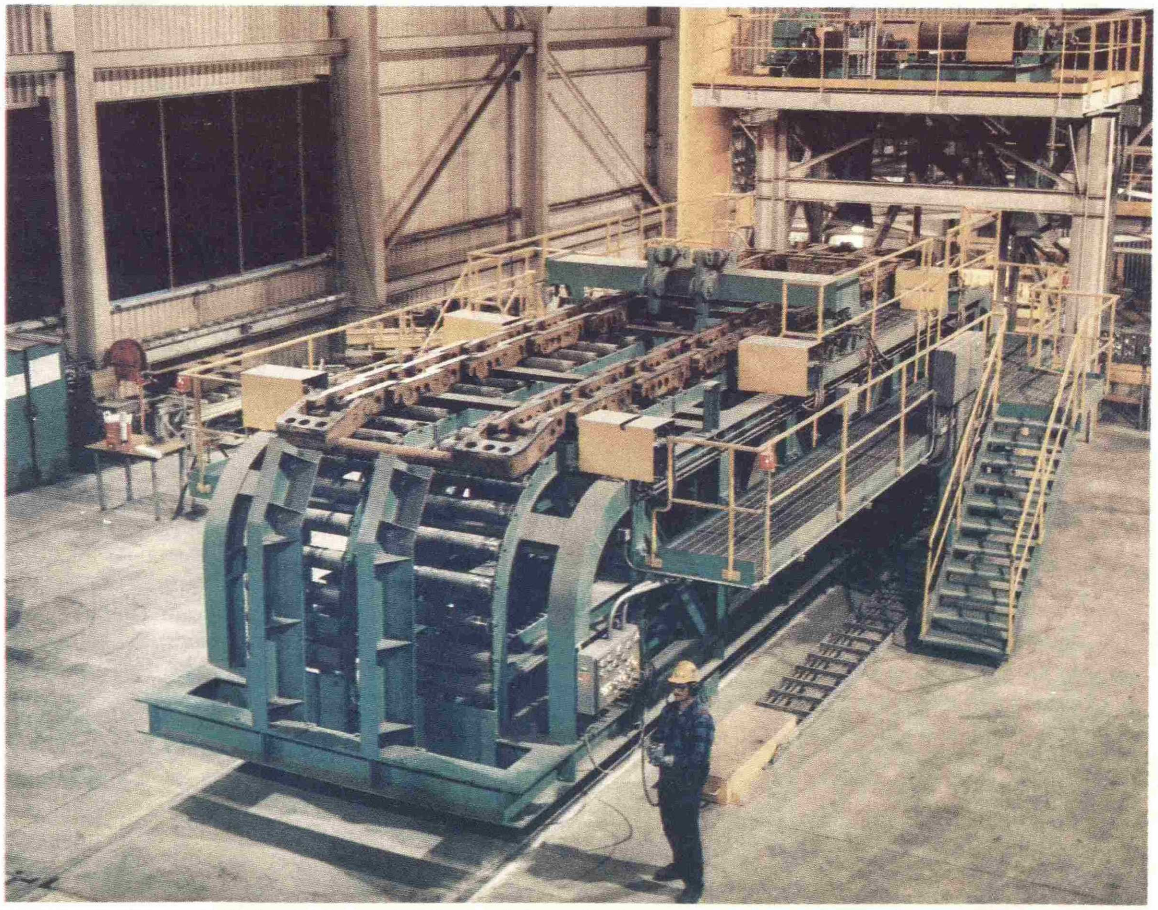
In 1989, a $34 million vacuum degassing unit was added for further processing of certain kinds of steel where specific characteristics are needed, such as more formability for auto parts, and such uses as ultra-low carbon steels used in automotive galvanized product.

Construction of "C" line caster, capable of producing slabs in two thicknesses, either 9.1 inches or 12 inches, began in 1989. This $240 million project adds approximately 1.6 million tons of casting capability.

The "C" line includes its own ladle metallurgy facility. A special "express" rail track, "Liquid Highway," with a locomotive-powered ladle transfer car gives flexibility to the steelmaking and casting shops by allowing steel produced at the No. 1 Basic Oxygen Process (BOP) steelmaking to be transported to the No. 2 caster to supplement steel produced at the adjacent No. 2 Q-BOP steelmaking unit. This special transporting scheme assures a constant supply of steel to all of Gary's casting lines by balancing steel production with utilization among all four casting units.



"C" Line Express is a special train locomotive and customer transfer car that carries molten steel, in ladles that contain 230 tons, from No. 1 Basic Oxygen Process (BOP) steelmaking shop to the No. 2 caster.



Unique to the new "C" line caster at U. S. Steel Gary Works is this top-fed " starter bar" machine that allows for quicker turnarounds in changing steel grades and widths. An operator gets ready to move the dummy bar carrier into place.

Training/Computers Boost "C" Casting Line to Good Start

Continuous casters like the new U. S. Steel Gary Works "C" line dedicated this week are wonders of modern technology.

Beyond the consistent functioning of this intricate machinery, modern steel casting requires two other important elements — computers and training.

Gary Works' new casting unit has an abundance of both, and because of this, the "C" line has gotten off to a fast operating start.

Training

Classroom training began in October 1990 for the 18 new maintenance personnel and in February 1991 for the new 38 operating personnel.

Training included hands-on work with experienced "A" and "B" line personnel whose five years of caster experience assisted greatly in breaking in the new people, according to Simon Rodich, casting manager responsible for coordinating the training effort.

"We didn't have to learn the basics all over again because of the experience brought by the veteran casting employees who were also trained on "C" line. All employees can operate or maintain any of the casting units in the No. 2 complex," he said.

In all, some 212 employees completed training for "C" line — six weeks of classroom training for maintenance personnel and four weeks of classroom training for operating jobs. Classes were held at the Gary Genesis Convention Center where there was appropriate space available. On-the-job training was done in-house at No. 2 caster.

"Experienced personnel spent the bulk of their time learning how to handle the improvements made to the casting hardware and computer software that give features to "C" line which increase productivity and allow the employees to do a better job in both operating and maintaining the machine," Rodich said.

Original training on No. 2 caster was more complex because many of the people were new to steelmaking and casting. The first two lines required training of key people overseas. Mock-up water models were used to give hands-on training to casting floor personnel.

"That initial training five years ago allowed for one of the best start-ups ever recorded in the annals of casting," Rodich explained. "The original employees who took that training now have five years' experience with the real thing and that has helped enormously in training for the new caster line."

Computer monitors in both the casting control (top) and runout pulpits (below) "put a face" on the controlling computer hardware located in a climate-controlled room in the No. 2 caster office building. Operators have more information than ever before to operate the new casting line to its optimum.

Computers

New computer equipment and software installed as an integral part of the "C" line caster include the basic state-of-the-art designs developed for the original two casters.

"Refinements have improved on the basic design, but essentially the two new "super mini" Level II computers, one serving as a back-up to the operating unit, make up the heart of the system," said Joseph J. Korba, process engineer in Gary Works energy/environmental division. The new computers are housed in the same facility as the original three units.

The new "super mini" computers operate at twice the speed of the original. They are capable of handling 3 million instructions per second. Capacity of data storage on hard disks has doubled to 18 billion bits of information.

Like the original computer units, the new hardware will track 200 variables for each foot of steel made on "C" line, including such information as chemistry, temperature, speed of the line, conformance to specification and roll force.

"This original tracking scheme has been used for five years on "A" and "B" lines. It has allowed us to refine the computer software to improve on all the parameters needed to operate the casters with optimum efficiency and assure the production of highest quality products," Korba said.

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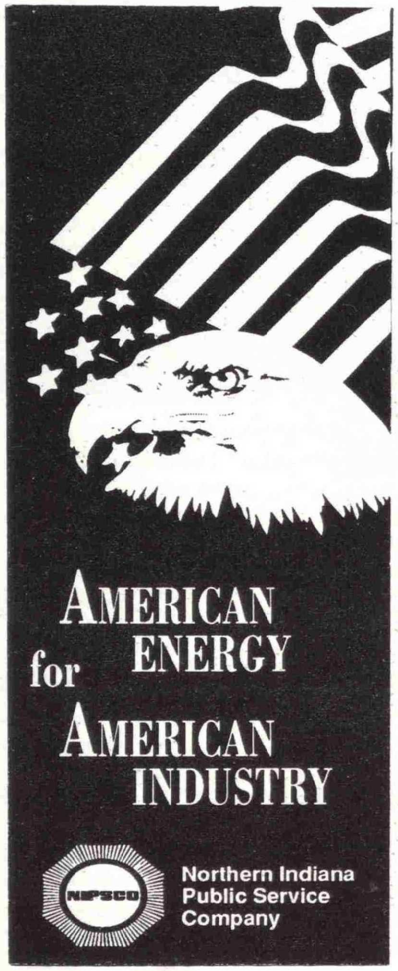
May we remain partners in the progressive future of America.



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The Pangere Corporation congratulates USS on the successful start-up of the new continuous slab caster and plate mill modernization at Gary Works. We are pleased to have been a participant in this project. Our best wishes to you for continued growth and prosperity.

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CONTRACTORS

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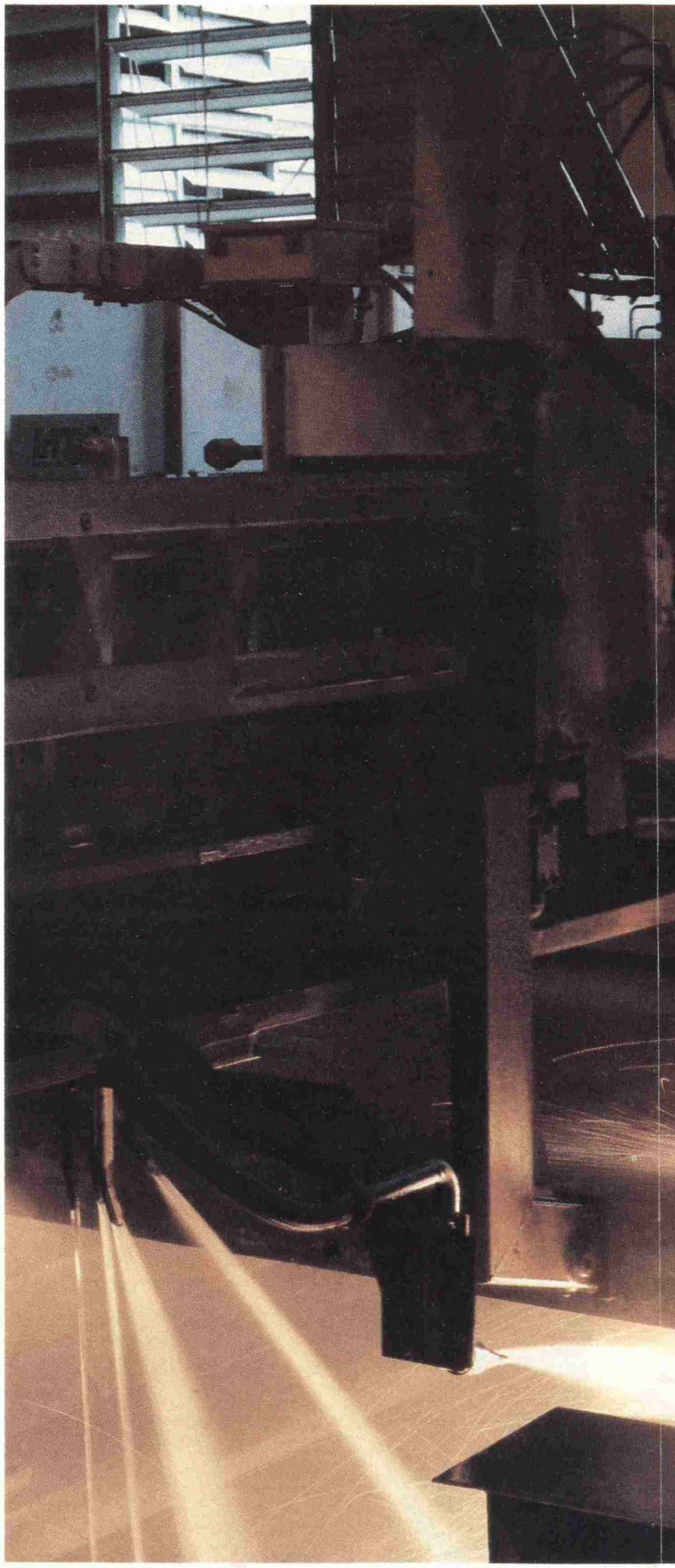
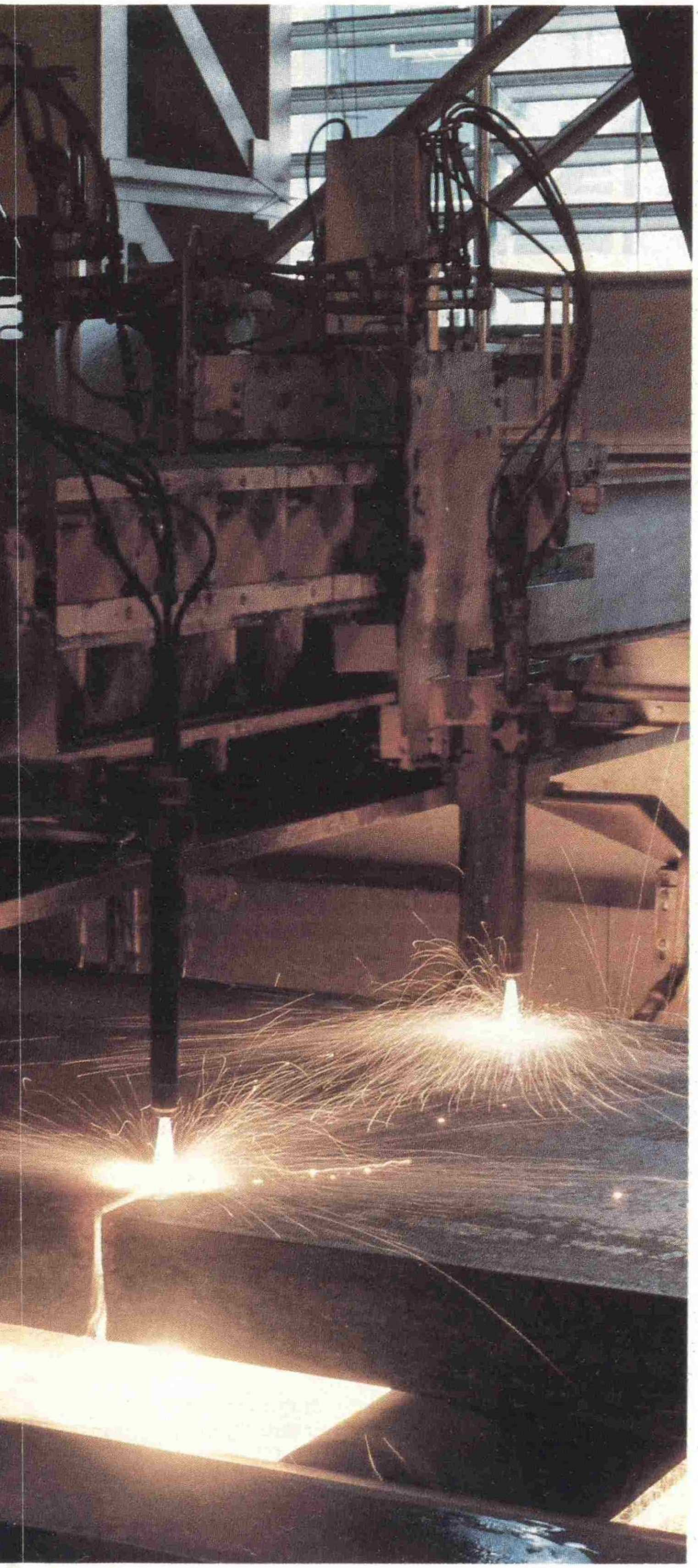


Oxygen powered twin torches cut steel slabs exiting the "C" line caste
like butter from each side to the center — severing a 9.1 inch thick, 10
within 17 feet.



aster at Gary Works. The torches clamp onto the cooling slab and cut the steel
x, 100-inch wide slab while travelling at a top speed of 65-inches a minute

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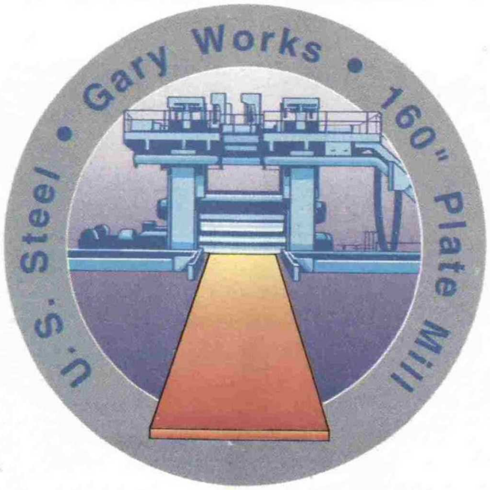
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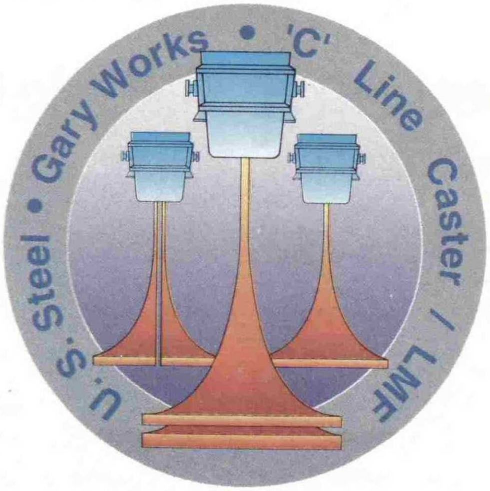
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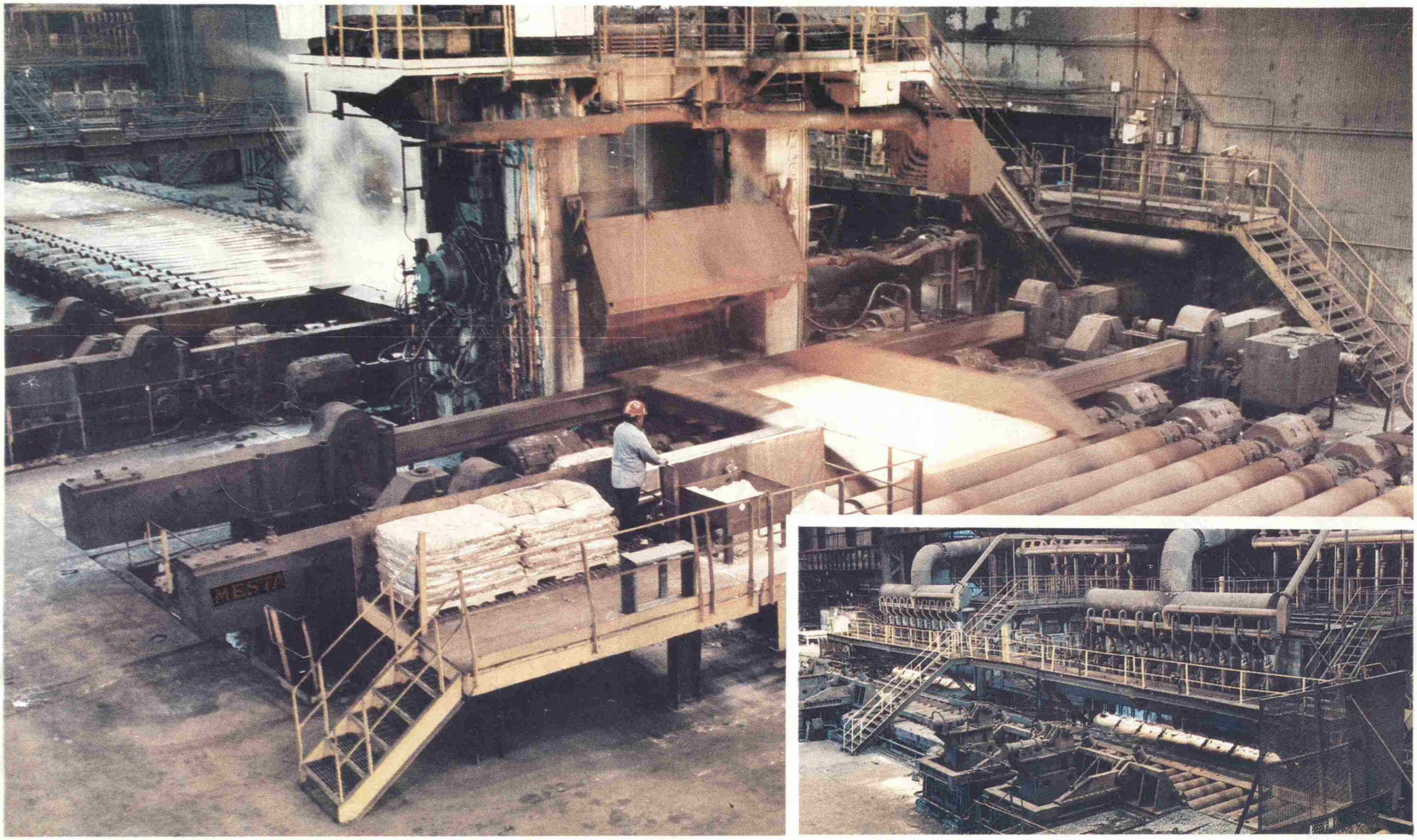


Complete rehabilitaiton of this 4-high reversing mill includes installation of hydraulic automatic gauge control. The continuous slab reheat furnace (inset) that brings the slabs up to rolling temperature was rebuilt during the modernization project that was finished earlier this year.

Technology Sets Industry Standard

The future was bright for Gary Works' 160"/210" plate mill when it began operations in 1962. Demand for lighter gauge, wider width, heat-treated plate product was on the rise. The Midwest market was expanding. And Gary's plate mill, the largest in the world, was intended to be the number one supplier to that market.

Part of the first wide plate Gary's plate mill rolled was used to build the Tagus River Bridge in Portugal, which was then Europe's largest suspension bridge. Gary's plates were needed for building the hulls, decks, and equipment rooms of super aircraft carriers. The mill's plates also were used in fleet ballistic missiles and blast reflectors for underground silos.

For 20 years demand for plate products remained high. Building America's ships, rail cars, barges, farm equipment and heavy industrial machinery continued throughout the 60s and 70s. The market for plate products was strong — so strong, in fact, that in 1980 there were 21 plate mills operating in the United States alone.

Demand for plate products plunged in the 1980s. The world, it seemed, had enough bridges and ships and rail cars to last a long while. Domestic plate production plummeted from a high of 9 million tons in 1979 to a low of 3.4 million tons in 1986, leaving foreign and domestic mills to compete for smaller shares of a shrinking market. Current plate demand averages 4.5 million tons per year. By 1987, only 10 domestic plate mills were left in operation.

Today's tougher customer requirements for gauge control and surface quality create even more challenges for the plate industry. To offset rising fuel costs, manufacturers of transport vehicles and industrial machinery closely monitor the gross weight of their end products, requiring steel suppliers to tighten gauge control since steel plates rolled thicker than the ordered gauge are overweight.

Responding to their customers' changing requirements, plate buyers have also tightened standards for acceptable plate quality. Their customers, even those buying heavy equipment for industrial or farm use, want finished products with improved surface quality.

"Our customers will no longer accept surface imperfections that suggest inferior steel quality." said Chip Bliss, senior buyer at John Deere.

Facing a downsized market and tougher gauge and quality requirements, Gary's plate mill accepted the challenge. In mid-1988 the wheels of an extensive modernization project were set in motion.

It took more than a year and cost more than $20 million to make the Gary plate mill among the world's most modern.

According to John Tinnemeyer, U. S. Steel's industry marketing manager-plate products, customers are enthused about the improvements. "The magnitude of this project shows that U. S. Steel has made a serious commitment to the plate products line," he said. "We listened to our customers' concerns and aggressively responded."

Modernization Project Completed at Gary Works Plate Mill

Modernization of Gary Works' 160-inch plate mill was completed early this year. The project began in mid-1988 and cost more than $20 million. Work continued for a year and a half and culminated in a successful start-up on March 11, 1991.

Modernization included complete rehabilitation of the 4-high reversing mill, installation of hydraulic automatic gauge control, and installation of the world's most modern rolling model to fully automate the production process.

Rehabilitation of the 4-High Reversing Mill

Imagine tearing down your house and building a new one from scratch. That's what happened at the 4-high mill. The entire housing for the 4-high mill was removed, leaving only a concrete foundation. A new mill housing was installed and all mill components were replaced. All backup and work roll chocks were restored to specification. And a new pulpit, with redesigned operator control desks, was installed.

To ensure a good fit and minimize installation time, the mill housing, which stands 36 feet tall and weighs over 1,000 tons when fully assembled, was preassembled on a specially designed concrete slab. Problems detected during preassembly were corrected, and actual installation took only 28 days.

Because the market for wide plate is just a fraction of what it was in 1962 when the plate mill was built, the sliding shoe plates that enabled the mill to roll plate up to 210 inches wide were replaced with shoe plates that now fix the mill at 160 inches. This also stabilizes the housing for better operation of the hydraulic automatic gauge cylinders.

Installation of Automatic Gauge Control (HAGC)

Installation of hydraulic automatic gauge control equipment enables Gary's 160 inch plate mill to better control plate thickness to meet the ever tightening requirements of plate customers. It also creates the opportunity for significant yield and productivity improvements.

Customers order plates of specific gauge, but they tolerate a certain amount of variation from the ordered thickness. In recent years, however, increasing numbers of plate customers have reduced the amount of acceptable variation by half. These half-standard tolerances are tougher to meet and are fast becoming the norm.

Before modernization, Gary's plate mill was able to meet half-standard tolerances on limited applications. The new HAGC equipment enables Gary's plate mill to meet half-standard tolerances for a wide range of critical applications.

"Customers who were used to getting a lot of variability in their plates are surprised and pleased by the change," said Leo Carrabine, area manager-plate mill. "Particularly those customers who have to control the gross weight of the products they fabricate."

Hydraulic pressure variation is now used to monitor the steel plate for variations in temperature and hardness which cause inconsistent gauge. This information is fed to an elaborate computer system which makes adjustments in the process to minimize thickness variation and improve shape.

Yield and productivity improvements are two more benefits of HAGC. Hydraulic cylinders enable the mill to control plate thickness, thereby lowering costs associated with reprocessing, rejections and delivery delays.

Automation

Although hydraulic automatic gauge cylinders are beneficial when used alone, trips to domestic, European and Far East mills convinced a team of U. S. Steel personnel that computer control was necessary to get the most from the cylinders. Working with Clecim, a French manufacturer, employees from engineering, operating and research helped design computer hardware and software that automated the entire rolling process.

MAC (a Mill Automation Computer) supervises the system. MAC contains state-of-the-art rolling model software that simulates and tracks the rolling operation. Using information about steel temperature, grade, roll temperature, roll crown, roll wear, desired gauge, crown, width and flatness, MAC performs the mathematical calculations necessary to minimize the number of passes necessary to roll a plate to the customer's specifications.

The rolling model contains a pattern control feature designed to improve the rectangular shape of the plate. Isotope thickness gauges send edge and center thickness measurements to MAC. If those measurements don't match the rolling model, MAC recalculates and orders corrections.

The front-end computer is the system's traffic cop. It acts as an interface between MAC and the programmable logic controllers (PLCs) that actually control the mill equipment.

Prior to modernization, crew members performed all the complex calculations and measurements necessary to roll steel plates. With computers performing those calculations, mill operators can concentrate on the process and consistently roll plates to precise customer specifications.

Additional Changes

More changes will be made at the plate mill in months to come. Stamping, marking and laser alignment equipment will be installed in the shear area. Those improvements will enable crew members to shear plates more accurately and quickly, thereby improving productivity.

Redesign and rebuild of the flame-cut transfer bed will present the opportunity to do an additional 13 thousand tons of business per year for plates requiring scratch-free surfaces.

Controlled cooling furnaces are being installed in the finishing end so that plates made from continuously cast slabs can be properly cooled. During nearly 30 years of operation, the plate mill has processed slabs made from steel ingots. Significant quality and cost improvements are anticipated as the plate mill begins processing continuously cast slabs from Gary Works' recently commissioned "C" line caster.

Start-up

Although it was forecast that 3-4 weeks would pass before the modernized plate mill returned to normal production, extensive planning and training made it possible to return to 95 percent production levels in less than two weeks. Start-up of the system was world-class, and full implementation of all system features is anticipated by year-end.

Giant computer screens dominate new pulpit at modernized 160-plate mill.

Plate Mill Employees Speak Out on Changes In Their Workplace

"The new gauge control will keep us in step with other plate product suppliers." —George Warnock, Stocker, 28 years

"The hydraulic gauge control gives us a far superior product." —Calvin Sharpley, Craneman, 28 years, member of the Plate Mill Task Force that helped disseminate information on the modernization project to other employees

"It's fantastic. We're giving our customers better gauge and a better product." —Charles R. McIlvenna, Furnace Charger, 27 years

"We used to compete with the people down the street. Now we compete with companies all over the world. The new system gives us the same capabilities as those other companies and the means to compete worldwide." —Wayne Lea, Roller, 34 years

"With better quality steel, we'll get more business. Our future's a lot brighter." —Art Jones, Hooker, 26 years, Member of Plate Mill Task Force

"With the new equipment, we can get gauge tolerance down to where the customer wants it." —John Zallas, Scale Inspector, 27 years

"We have a better mill now. And we have a better product." —John Crago, Vicing Foreman, 27 years

"Our customers are getting a better product on time." —Tom Stanton, Craneman, 27 years

"This investment shows our customers that we plan to stay in the plate business." —Phil Richardson, Millwright Expanded, 17 years

"This modern equipment is going to help us win over new customers." —Michael Mitchell, Motor Inspector, 16 years

"Using a new scheduling program, we're giving the mill a better rolling schedule, and the customer gets a better product from that schedule." —Marie McKinney, Scheduler, 22 years

"By applying our APEX Quality System and using this new technology, we're going to become a world-class plate mill." —Joe Festa, APEX Manager, 27 years

The plate mill's new computers are housed in a room below the control pulpit where technicians supervise and refine the software that drives the new controlling system.

. . . People Make the Difference

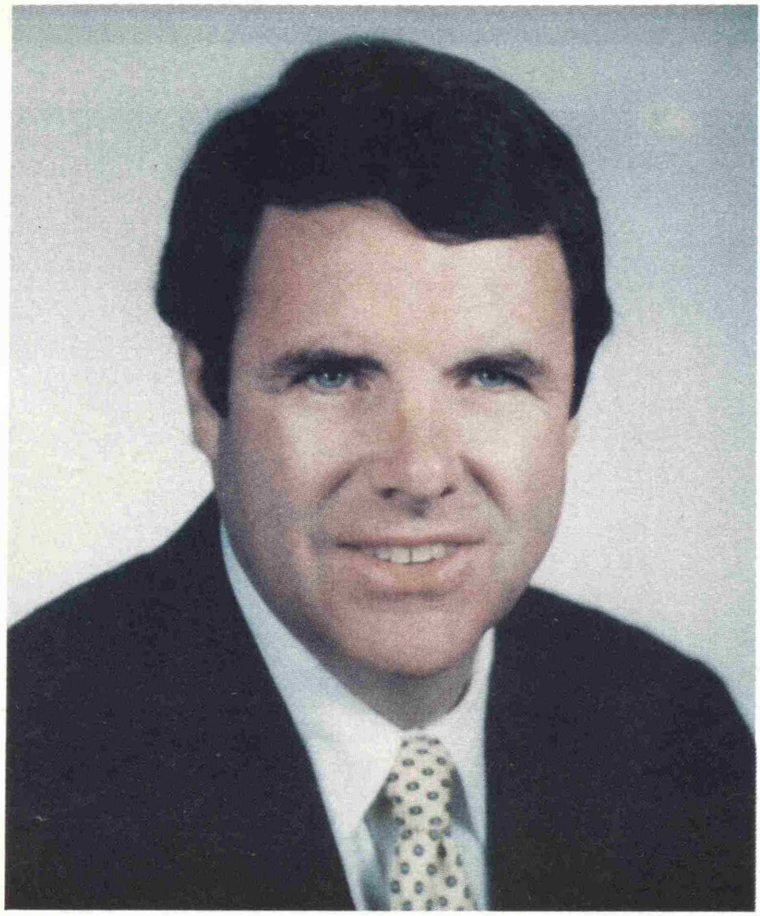
Extensive training and employee involvement paid off in a smooth and rapid startup for Gary Works' modernized 160-inch plate mill earlier this year. All employees received an overview of the project before it began, and training was tailored to prepare specific groups of employees for the challenges ahead.

Several employees, including hourly operators and managers, were trained in France, where the firm selected to manage the modernization project is located. A Gary Works rolling engineer, with many years of plate rolling experience, trained in France is now training operators and managers on the mill's operation. The training received in France by process control engineers and technicians prepared them to assist in every phase of start-up and problem solving.

Employee involvement was equally important to the success of the modernization project. Rollers and roller attendants worked closely with the manufacturer to design efficient operator control desks and computer screens. Countless employees contributed essential information that aided in the design of a state-of-the-art system for the Gary plate mill.

"Employee involvement has been crucial from the start," said Jim McNamara, division manager-plate products. "Without the specialized skills, talents and experience of our people, this sophisticated equipment would be useless."

U. S. Steel • Gary Works • 'C' Line Caster / LMF



A message from Thomas J. Usher
President - U. S. Steel Group
A unit of USX Corporation

What's in a name? This year, we returned to the name with a time-honored tradition in steelmaking — U. S. Steel. We are proud of that name and of its history.

We have long been America's premier steelmaker and we want to continue that reputation of excellence. But it takes more than tradition. It takes commitment — a commitment to unparalleled quality and service to our customers.

Constant improvement to quality is a challenge requiring the attention of every one of our employees — more than 20,000 throughout the U. S. Steel organization nationwide.

If anyone were to ask me what's needed to be a successful steelmaker in today's competitive marketplace, I'd give them three key factors: quality, quality, and quality.

We at U. S. Steel are demonstrating a commitment to quality in a variety of ways.

An ongoing extensive capital expenditure program, here at Gary Works and at our other plants, is one crucial element. With the completion of a third continuous slab casting facility — the $240 million "C" line caster — Gary Works boasts the largest, highest quality casting complex in North America, with annual capacity of some 7 million tons.

A related project, also completed this year, is the modernization of Gary's 160-inch plate mill, which will receive slabs from the new casting line. The plate mill upgrade represents a $20 million investment in quality for our customers in that market.

Overall, in the last 10 years, U. S. Steel has invested more than $1 billion for modernization projects and environmental control facilities.

The steel capital projects have been designed to improve quality and assure production at the most competitive costs. The environmental investments and programs, in place throughout the U. S. Steel operations, are a demonstration of our commitment to be good neighbors in the communities where we work and live.

We're proud of our environmental achievements, but we know the job is far from finished. Our goal is continuing improvement to the environment, right along with our commitment to continued improvement in quality and competitive efficiency.

Steel processing today is a high-tech, computerized business, and our investments have given U. S. Steel a world-class array of facilities. But the most important element of competitive success will remain what it's always been — people! We're making our capital investments pay off through the efforts of the highly trained, highly skilled men and women who operate and maintain our modern facilities.

The quality and tolerance specifications of our customers grow more stringent each day. Our people must respond to those demands along every step of the process — from assuring proper quality and chemistry in iron and steel-making, through close attention to the critical surface characteristics required for markets such as automotive, to our performance in meeting the "just-in-time" delivery needs of customers.

U. S. Steel's employees are meeting these challenges, aided by important tools such as statistical process controls and methods which allow them to track vital information about products and orders from start to delivery. It's a teamwork effort which is building a growing sense of ownership and pride throughout our work force.

We're gratified that this effort is gaining recognition from our customers, as demonstrated by 16 major quality awards which U. S. Steel received in the last year. Gary Works has been at the forefront of those quality leadership honors. I think everyone involved can be proud of our quality position, and of our position as America's premier steel producer.

We're not satisfied — and never will be — but we're moving in the right direction. We want to be known as the world-wide leader in quality steel products. With the ongoing participation of all of our employees, and continued attention to customer needs, that's a dream we can all share and realize.

USS THE
"QUALITY DRIVEN"
COMPANY

Employee Involvement Key to Successes In Environment

The view from atop Gary's Genesis Convention Center provides a panoramic look at the city's downtown area and the nearby Gary Works of U. S. Steel Group.

Local residents will tell you that the view is more attractive now because the air is cleaner than in past years.

The improvement in ambient air quality also has been noticed by Mother Nature. A pair of rare peregrine falcons has taken up residence on a bridge support column in the center of the sprawling steel plant. In the past year, four eyases (baby falcons) were successfully hatched.

Plant employees have taken a special interest in the welfare of the birds and are working with the Indiana Department of Natural Resources to monitor them.

To further emphasize this responsibility, as related to the delicate balance between industry and nature, Gary Works is creating a 20-acre wildlife sanctuary on plant property near Miller Woods which adjoins the Indiana Dunes National Park.

This environmental project will provide opportunities for employee and community involvement which also could include visits by area school students to study natural ecosystems. Studying the environment and new procedures and technologies to reduce pollution is an ongoing effort at Gary Works. It is an essential accompaniment to the enormous investments the plant has made in installing and maintaining sophisticated environmental control facilities.

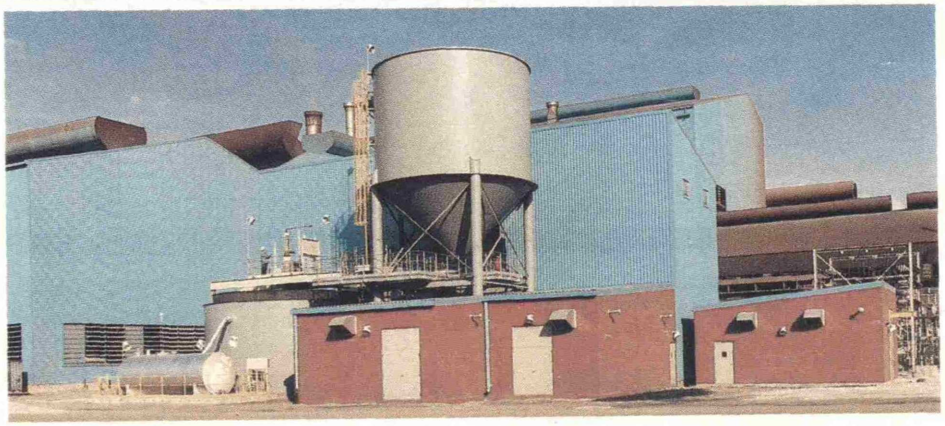
The "SWEEP" (Source Waste Elimination Environmental Program) provides on-the-job instruction and the "CITE" (Continuous Improvement To Environment) program includes classroom and on-the-job instruction for supervisory and wage employees.

Meeting these tighter regulations is necessitating additional major expenditures for new environmental hardware. For example, the plant's new state-of-the-art No. 3 continuous slab caster includes a $17 million water treatment system.

Other environmental improvements underway or planned at Gary Works include:

Federal Water Consent Decree	$29 Million
Projects including Coke Plant sewer remediation, Blast Furnace Recycle System improvements, BOP Gas Cooler Recycle System, Terminal treatment Plant improements and Discharge Monitoring Facilities.	
Coke Plant Beanzene/VOC Emission Control	$29 Million
No. 2 Q-BOP Desulfurization and Hot Metal Transfer Emission Control	$8 Million
Ladle Metallurgy Facility Emission Control	$1 Million

The total for this latest series of environmental expenditures exceeds $84 million. It represents a tremendous commitment by Gary Works to initiate continuous environmental improvement.



(TOP) Water recycle system for the new "C" line caster along with the water recycle systems for the "A" and "B" lines are computer controlled from the same control pulpit. (BOTTOM) The new casting line has its own filter building (and pump house) assuring environmental integrity in water control.

Front cover: (TOP) A slab exits the new "C" line caster at Gary Works. The runout operator monitors the automatic torch cut-off control in the pulpit at upper left. (BOTTOM) Operators at the modernization 160-inch plate mill have an impressive array of computer screens as part of the new automatic gauge control for finer tolerance steel plates.

One of two adult peregrine falcons have taken up residence at the U. S. Steel Gary Works sinter plant where they have raised a family.

Gary Works

U. S. Steel Group
A division of USX Corporation